

Amendments to the Claims:

This listing of claims replaces all prior versions and listings of claims in the application:

Listing of Claims:

1. (Currently Amended) A method comprising:
examining a set of services to identify two or more parallel services performed by a common processor;
processing a defined number of data elements to simulate a data flow through the set of services; ~~and~~
determining an element ratio that defines the portion of data elements processed by each of the parallel services; ~~and~~
defining a scheduling service that distributes the data elements to each parallel service.
2. (Original) The method of claim 1 further comprising:
modifying the set of services to route the data elements based on the element ratio.
3. (Original) The method of claim 2 wherein the common processor is a packet engine.
4. (Original) The method of claim 1 further comprising:
determining an average processing time for each of the parallel services, the average processing time representing the average time that a parallel service requires to process a single data element.
5. (Original) The method of claim 4 further comprising:

determining a time-ratio product for each of the parallel services, the time-ratio product being based on the mathematical product of the average processing time and the element ratio.

6. (Original) The method of claim 5 further comprising:
comparing the time-ratio products of each parallel process to determine a normalized ratio.
7. (Original) The method of claim 6 further comprising:
modifying the set of services to route the data elements based on the normalized ratio.
8. (Original) The method of claim 7 further comprising:
defining a scheduling service that distributes the data elements to each parallel service.
9. (Original) The method of claim 1 wherein the set of services is represented by a data flow graph.
10. (Original) The method of claim 1 wherein each data element is a data packet.
11. (Currently Amended) A computer program product residing on a computer readable medium having a plurality of instructions stored thereon which, when executed by the processor, cause that processor to:
examine a set of services to identify two or more parallel services performed by a common processor;
process a defined number of data elements to simulate a data flow through the set of services; ~~and~~
determine an element ratio that defines the portion of data elements processed by each of the parallel services; and
define a scheduling service that distributes the data elements to each parallel service.

12. (Original) The computer program product of claim 11 further comprising instructions for:

modifying the set of services to route the data elements based on the element ratio.

13. (Original) The computer program product of claim 12 wherein the processor is a packet engine.

14. (Original) The computer program product of claim 11 further comprising instructions for:

determining an average processing time for each of the parallel services;

wherein the average processing time represents the average time that a parallel service requires to process a single data element.

15. (Original) The computer program product of claim 14 further comprising instructions for:

determining a time-ratio product for each of the parallel services;

wherein the time-ratio product is based on the mathematical product of the average processing time and the element ratio.

16. (Original) The computer program product of claim 15 further comprising instructions for:

comparing the time-ratio products of each parallel process to determine a normalized ratio.

17. (Original) The computer program product of claim 16 further comprising instructions for:

modifying the set of services to route the data elements based on the normalized ratio.

18. (Original) The computer program product of claim 17 further comprising instructions for:

defining a scheduling service that distributes the data elements to each parallel service.

19. (Original) The computer program product of claim 11 wherein the set of services is represented by a data flow graph.

20. (Original) The computer program product of claim 11 wherein each data element is a data packet.

21. (Cancelled)

22. (Cancelled)

23. (New) A system comprising:
a plurality of packet engines configured to process data packets;
an examination module configured to examine a set of services to identify two or more parallel services performed by one of the plurality of packet engines;
a simulation module configured to simulate a data flow through the set of services;
means for determining a portion of the data packets processed by each of the parallel services; and
a scheduler generation module configured to distribute the data packets to each parallel service based on the determined portion of the data packets.